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NEWS 13 DEC 17 MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary  
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FILE 'HOME' ENTERED AT 18:33:02 ON 04 MAR 2008

=> file medline  
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	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'MEDLINE' ENTERED AT 18:33:11 ON 04 MAR 2008

FILE LAST UPDATED: 4 Mar 2008 (20080304/UP) - FILE COVERS 1949 TO DATE.

MEDLINE has been updated with the National Library of Medicine's revised 2008 MeSH terms. See [HELP RLOAD](#) for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s melanocortin-4
      2242 MELANOCORTIN
      395 MELANOCORTINS
      2341 MELANOCORTIN
                  (MELANOCORTIN OR MELANOCORTINS)
  2572749 4
L1      516 MELANOCORTIN-4
                  (MELANOCORTIN(W)4)
```

=> s 11 and MELANOCORTIN-4 receptor modulator  
2242 MELANOCORTIN  
395 MELANOCORTINS  
2341 MELANOCORTIN  
(MELANOCORTIN OR MELANOCORTINS)  
2572749 4  
605507 RECEPTOR  
628677 RECEPTORS  
843033 RECEPTOR  
(RECEPTOR OR RECEPTORS)  
13917 MODULATOR  
17840 MODULATORS  
30352 MODULATOR  
(MODULATOR OR MODULATORS)  
1 MELANOCORTIN-4 RECEPTOR MODULATOR  
(MELANOCORTIN (W) 4 (W) RECEPTOR (W) MODULATOR)  
1 L1 AND MELANOCORTIN-4 RECEPTOR MODULATOR

=> d\_ibib\_abs

L2 ANSWER 1 OF 1 MEDLINE on STN  
ACCESSION NUMBER: 2007655875 MEDLINE Full-text  
DOCUMENT NUMBER: PubMed ID: 17979771

**TITLE:** An integrated approach to fragment-based lead generation: philosophy, strategy and case studies from AstraZeneca's drug discovery programmes.

**AUTHOR:** Albert Jeffrey S; Blomberg Niklas; Breeze Alexander L; Brown Alastair J H; Burrows Jeremy N; Edwards Philip D; Folmer Rutger H A; Geschwindner Stefan; Griffen Ed J; Kenny Peter W; Nowak Thorsten; Olsson Lise-Lotte; Sanganeer Hitesh; Shapiro Adam B

**CORPORATE SOURCE:** CNS Lead Generation Department, AstraZeneca R&D, 1800 Concord Pike, Wilmington, DE 19803, USA..  
jeffrey.albert@astrazeneca.com

**SOURCE:** Current topics in medicinal chemistry, (2007) Vol. 7, No. 16, pp. 1600-29. Ref: 133  
Journal code: 101119673. E-ISSN: 1873-4294.

**PUB. COUNTRY:** Netherlands

**DOCUMENT TYPE:** Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)

**LANGUAGE:** English

**FILE SEGMENT:** Priority Journals

**ENTRY MONTH:** 200712

**ENTRY DATE:** Entered STN: 6 Nov 2007  
Last Updated on STN: 19 Dec 2007  
Entered Medline: 18 Dec 2007

**AB** Fragment-based lead generation (FBLG) has recently emerged as an alternative to traditional high throughput screening (HTS) to identify initial chemistry starting points for drug discovery programs. In comparison to HTS screening libraries, the screening sets for FBLG tend to contain orders of magnitude fewer compounds, and the compounds themselves are less structurally complex and have lower molecular weight. This report summarises the advent of FBLG within the industry and then describes the FBLG experience at AstraZeneca. We discuss (1) optimising the design of screening libraries, (2) hit detection methodologies, (3) evaluation of hit quality and use of ligand efficiency calculations, and (4) approaches to evolve fragment-based, low complexity hits towards drug-like leads. Furthermore, we exemplify our use of FBLG with case studies in the following drug discovery areas: antibacterial enzyme targets, GPCRs (melanocortin 4 receptor modulators), prostaglandin D2 synthase inhibitors, phosphatase inhibitors (protein tyrosine phosphotase 1B), and protease inhibitors ( $\beta$ -secretase).

=> s MELANOCORTIN-4 receptor  
2242 MELANOCORTIN  
395 MELANOCORTINS  
2341 MELANOCORTIN  
(MELANOCORTIN OR MELANOCORTINS)

2572749 4  
605507 RECEPTOR  
628677 RECEPTORS  
843033 RECEPTOR  
(RECEPTOR OR RECEPTORS)

L3 491 MELANOCORTIN-4 RECEPTOR  
(MELANOCORTIN(W) 4(W)RECEPTOR)

=> s 13 and (antagonist or agonist)  
135861 ANTAGONIST  
513596 ANTAGONISTS  
570363 ANTAGONIST  
(ANTAGONIST OR ANTAGONISTS)

101616 AGONIST  
118175 AGONISTS  
172953 AGONIST  
(AGONIST OR AGONISTS)  
L4 266 L3 AND (ANTAGONIST OR AGONIST)

=> s 14 and cancer  
623819 CANCER  
90311 CANCERS  
650839 CANCER  
(CANCER OR CANCERS)  
L5 9 L4 AND CANCER

=> d ibib abs tot

L5 ANSWER 1 OF 9 MEDLINE on STN  
ACCESSION NUMBER: 2007720315 IN-PROCESS Full-text  
DOCUMENT NUMBER: PubMed ID: 17994683  
TITLE: Design, synthesis, in vitro, and in vivo characterization  
of phenylpiperazines and pyridinylpiperazines as potent and  
selective antagonists of the melanocortin  
-4 receptor.  
AUTHOR: Tran Joe A; Jiang Wanlong; Tucci Fabio C; Fleck Beth A; Wen  
Jenny; Sai Yang; Madan Ajay; Chen Ta Kung; Markison Stacy;  
Foster Alan C; Hoare Sam R; Marks Daniel; Harman John; Chen  
Caroline W; Arellano Melissa; Marinkovic Dragan; Bozigian  
Haig; Saunders John; Chen Chen  
CORPORATE SOURCE: Department of Medicinal Chemistry, Neurocrine Biosciences,  
Inc., 12790 El Camino Real, San Diego, California 92130,  
USA.  
SOURCE: Journal of medicinal chemistry, (2007 Dec 13) Vol. 50, No.  
25, pp. 6356-66. Electronic Publication: 2007-11-10.  
Journal code: 9716531. ISSN: 0022-2623.

PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: NONMEDLINE; IN-PROCESS; NONINDEXED; Priority Journals  
ENTRY DATE: Entered STN: 11 Dec 2007  
Last Updated on STN: 23 Jan 2008

AB Benzyldamine and pyridinemethylamine derivatives were synthesized and  
characterized as potent and selective antagonists of the melanocortin-4  
receptor (MC4R). These compounds were also profiled in rodents for their  
pharmacokinetic properties. Two compounds with diversified profiles in  
chemical structure, pharmacological activities, and pharmacokinetics, 10 and  
12b, showed efficacy in an established murine cachexia model. For example,  
12b had a K(i) value of 3.4 nM at MC4R, was more than 200-fold selective over  
MC3R, and had a good pharmacokinetic profile in mice, including high brain  
penetration. Moreover, 12b was able to stimulate food intake in the tumor-  
bearing mice and reverse their lean body mass loss. Our results provided  
further evidence that a potent and selective MC4R antagonist with appropriate  
pharmacokinetic properties might potentially be useful for the treatment of  
cancer cachexia.

L5 ANSWER 2 OF 9 MEDLINE on STN  
ACCESSION NUMBER: 2007369121 MEDLINE Full-text  
DOCUMENT NUMBER: PubMed ID: 17584133  
TITLE: Melanocortin-4 receptor  
antagonists as potential therapeutics in the  
treatment of cachexia.

AUTHOR: Foster Alan C; Chen Chen  
CORPORATE SOURCE: Neurocrine Biosciences Inc., San Diego, CA 92130, USA..  
afoster@neurocrine.com  
SOURCE: Current topics in medicinal chemistry, (2007) Vol. 7, No. 11, pp. 1131-6. Ref: 47  
Journal code: 101119673. E-ISSN: 1873-4294.  
PUB. COUNTRY: Netherlands  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200709  
ENTRY DATE: Entered STN: 23 Jun 2007  
Last Updated on STN: 25 Sep 2007  
Entered Medline: 24 Sep 2007  
AB The melanocortin-4 (MC4) receptor subtype plays a pivotal role in body weight regulation. Knock-out or mutation of MC4 receptors in animals or humans leads to severe obesity and acute or sub-acute antagonism of central MC4 receptors produces an increase in food intake and a decrease in metabolism. Knock-out or antagonism of MC4 receptors in animal models of cachexia leads to a protection from anorexia and the loss of both lean and fat body mass, suggesting that an MC4 antagonist may be beneficial in wasting diseases, which are poorly treated by available therapies. Considerable progress has been made in the discovery of non-peptide antagonists with high affinity and selectivity for MC4 receptors. Optimization of these compounds has produced molecules that are active upon systemic administration and are effective in protecting against cachectic symptoms in animal models of tumor-induced wasting. Further development of such compounds is greatly anticipated as a potential means to combat the cachexia that results from chronic diseases such as cancer, AIDS, renal failure, liver failure, congestive heart failure and lung disease.

L5 ANSWER 3 OF 9 MEDLINE on STN  
ACCESSION NUMBER: 2007349493 MEDLINE Full-text  
DOCUMENT NUMBER: PubMed ID: 17563464  
TITLE: Melanocortin interventions in cachexia: how soon from bench to bedside?.  
AUTHOR: DeBoer Mark D  
CORPORATE SOURCE: Division of Endocrinology, University of Virginia,  
Charlottesville, Virginia 22908, USA.. mdd5z@virginia.edu  
CONTRACT NUMBER: F32 DK072820-01A1 (United States NIDDK)  
SOURCE: Current opinion in clinical nutrition and metabolic care,  
(2007 Jul) Vol. 10, No. 4, pp. 457-62. Ref: 66  
Journal code: 9804399. ISSN: 1363-1950.  
PUB. COUNTRY: England: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)  
General Review; (REVIEW)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200710  
ENTRY DATE: Entered STN: 13 Jun 2007  
Last Updated on STN: 13 Oct 2007  
Entered Medline: 12 Oct 2007  
AB PURPOSE OF REVIEW: Cachexia is a condition of anorexia and wasting that accompanies many diseases including cancer, heart failure, and renal failure. One key center that is probably involved in the propagation of symptoms of cachexia is the melanocortin system in the hypothalamus and brainstem. This review focuses on cachexia treatment interventions that act via melanocortin

antagonism, by direct or indirect means. RECENT FINDINGS: Recent reports include a description of the physiology of the melanocortin system and its responsiveness to inflammatory cytokines. Regarding treatment potential, multiple reports describe the effectiveness of small molecule antagonists of the melanocortin-4 receptor in animal models of cachexia. These melanocortin antagonists, given by peripheral injection, improve food intake and lean body mass retention in the setting of cancer and renal failure. Additional reports provide evidence of melanocortin antagonism following treatment of cachexia using ghrelin and eicosonic acid. SUMMARY: Cachexia is a serious condition that accompanies various disease states and currently does not have effective treatments. The melanocortin system may play a direct role in producing symptoms of cachexia, making antagonism of this system a logical objective for ameliorating these symptoms. Thus far, however, no data on human application have been published.

L5 ANSWER 4 OF 9 MEDLINE on STN  
ACCESSION NUMBER: 2006507711 MEDLINE Full-text  
DOCUMENT NUMBER: PubMed ID: 16932335  
TITLE: Therapy insight: Use of melanocortin antagonists in the treatment of cachexia in chronic disease.  
AUTHOR: DeBoer Mark D; Marks Daniel L  
CORPORATE SOURCE: Department of Pediatrics, Oregon Health and Science University, Portland, OR 97239-2901, USA.  
SOURCE: Nature clinical practice. Endocrinology & metabolism, (2006 Aug) Vol. 2, No. 8, pp. 459-66. Ref: 45  
Journal code: 101261798. ISSN: 1745-8366.  
PUB. COUNTRY: England: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200609  
ENTRY DATE: Entered STN: 26 Aug 2006  
Last Updated on STN: 22 Sep 2006  
Entered Medline: 21 Sep 2006

AB Cachexia is a process that accompanies many chronic diseases, and consists of a combination of wasting of lean body mass, increased energy expenditure, and a paradoxical loss of appetite. Cachexia both worsens quality of life and negatively affects treatment of the underlying disease. Conditions as diverse as cancer, renal failure, and heart failure show a remarkable similarity in their associated cachexia, exhibiting changes in metabolism and endocrinology, including marked increases in levels of cytokines that accompany these diseases. So far, it has been difficult to treat disease-associated cachexia successfully. One treatment that has shown promise in animal trials, however, involves antagonism of the central melanocortin system, an anorexigenic pathway in the hypothalamus and brainstem. Humans who have genetic mutations involving pro-opiomelanocortin or the melanocortin 4 receptor in this pathway exhibit increased appetite and increased lean body mass. Recent research has shown that in rodent models of cancer and renal failure, administration of melanocortin 4 receptor antagonists results in an attenuation of symptoms of cachexia, including maintenance of appetite, lean body mass, and basal energy expenditure. Although this research needs to be substantiated in humans, it provides a promising direction for treating the wasting that is associated with a variety of disease states.

L5 ANSWER 5 OF 9 MEDLINE on STN  
ACCESSION NUMBER: 2006213166 MEDLINE Full-text  
DOCUMENT NUMBER: PubMed ID: 16436498

TITLE: Peripheral administration of a melanocortin 4-receptor inverse agonist prevents loss of lean body mass in tumor-bearing mice.

AUTHOR: Nicholson Janet R; Kohler Gotz; Schaeerer Florian; Senn Claudia; Weyermann Philipp; Hofbauer Karl G

CORPORATE SOURCE: Applied Pharmacology, Biocentrum, University of Basel, Klingelbergstrasse 50, CH-4056 Basel, Switzerland.

SOURCE: The Journal of pharmacology and experimental therapeutics, (2006 May) Vol. 317, No. 2, pp. 771-7. Electronic Publication: 2006-01-25. Journal code: 0376362. ISSN: 0022-3565.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200606

ENTRY DATE: Entered STN: 19 Apr 2006  
Last Updated on STN: 10 Jun 2006  
Entered Medline: 9 Jun 2006

AB Cachexia affects many different chronically ill patient populations, including those with cancer. It results in loss of body weight, particularly of lean body mass (LBM), and is estimated to be responsible for over 20% of all cancer-related deaths. Currently, available drugs are ineffective, and new therapies are urgently needed. Melanocortin 4-receptor (MC4-R) blockade has been shown recently to be effective in preventing cancer cachexia in rodent models. In the present study, we have tested a MC4-R blocker, ML00253764 [2-(2-[5-bromo-2-methoxyphenyl]-ethyl)-3-fluorophenyl]-4,5-dihydro-1H-imidazolium hydrochloride (Vos et al., 2004), *in vitro* and *in vivo*. In membranes of human embryonic kidney 293 cells expressing human MC4-R, ML00253764 displaced [<sup>3</sup>Nle(4), d-Phe(7)]-alpha-melanocyte-stimulating hormone binding with an IC<sub>50</sub> of 0.32 microM. At concentrations above 1 microM, ML00253764 decreased cAMP accumulation (maximal reduction of ~20%) indicative of inverse agonist activity. ML00253764 was administered twice daily (15 mg/kg s.c.) for 13 days to C57BL6 mice bearing s.c. Lewis lung carcinoma tumors. Food intake and body weight were measured, and body composition was assessed using magnetic resonance relaxometry. ML00253764 stimulated light-phase food intake relative to vehicle-treated controls ( $p < 0.05$ ), although no effect was observed on 24-h food intake. During the 21 days of the experiment, the LBM of tumor vehicle-treated mice decreased ( $p < 0.05$ ). In contrast, the tumor-bearing mice treated with ML00253764 maintained their LBM. These data support the view that MC4-R blockade may be a suitable approach for the treatment of cancer cachexia and that MC4-R inverse agonists may have potential as drug candidates.

L5 ANSWER 6 OF 9 MEDLINE on STN

ACCESSION NUMBER: 2005346575 MEDLINE Full-text

DOCUMENT NUMBER: PubMed ID: 15919173

TITLE: Melanocortin-4 receptor in sheep: a potential site for therapeutic intervention in disease models.

AUTHOR: Sartin J L; Wagner C G; Marks D L; Daniel J A; McMahon C D; Obese F Y; Partridge C

CORPORATE SOURCE: Department Anatomy, Physiology & Pharmacology, Auburn University, AL 36849, USA.. sartinjl@vetmed.auburn.edu

SOURCE: Domestic animal endocrinology, (2005 Aug) Vol. 29, No. 2, pp. 446-55. Electronic Publication: 2005-04-07. Ref: 54 Journal code: 8505191. ISSN: 0739-7240.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

General Review; (REVIEW)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200509  
ENTRY DATE: Entered STN: 7 Jul 2005  
Last Updated on STN: 2 Sep 2005  
Entered Medline: 1 Sep 2005  
**AB** Reduced appetite combined with increased metabolic rate and decreased lean body mass is a major consequence of disease and other stressors. Studies in rodent species suggest that an understanding of appetite regulation may provide methodologies for intervention to prevent the deterioration of body mass such as observed with cancer or infectious diseases. For example, melanocortin-4 receptor (MC4-R) antagonists have shown a remarkable ability to reverse or prevent cachexia in rodents with sarcoma or treated with endotoxin. Studies in sheep have indicated that a number of peptide neurotransmitters may have a role in regulating appetite in this species. For example, agouti related protein mRNA and protein levels are dramatically altered with fasting in sheep. Moreover, agouti related protein, neuropeptide Y, melanin concentrating hormone and orexin are potent stimuli to increase feed intake in sheep. Recent studies have indicated that one of these neurotransmitters, NPY, can work in principal to improve appetite in endotoxin-treated sheep. Current studies are examining the role that MC4-R antagonists may have in the prevention or correction of body mass wasting diseases as well as practical applications in animal production.

L5 ANSWER 7 OF 9 MEDLINE on STN  
ACCESSION NUMBER: 2005256183 MEDLINE Full-text  
DOCUMENT NUMBER: PubMed ID: 15774557  
TITLE: The regulation of feeding and metabolic rate and the prevention of murine cancer cachexia with a small-molecule melanocortin-4 receptor antagonist.  
AUTHOR: Markison Stacy; Foster Alan C; Chen Chen; Brookhart Gregor B; Hesse Amy; Hoare Sam R J; Fleck Beth A; Brown Brock T; Marks Daniel L  
CORPORATE SOURCE: Department of Pediatrics, Mailcode CDRCP, 707 Southwest Gaines Road, Portland, Oregon 97239, USA.. marksd@ohsu.edu  
SOURCE: Endocrinology, (2005 Jun) Vol. 146, No. 6, pp. 2766-73.  
Electronic Publication: 2005-03-17.  
Journal code: 0375040. ISSN: 0013-7227.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals  
ENTRY MONTH: 200506  
ENTRY DATE: Entered STN: 18 May 2005  
Last Updated on STN: 29 Jun 2005  
Entered Medline: 28 Jun 2005  
**AB** Cachexia is metabolic disorder characterized by anorexia, an increased metabolic rate, and loss of lean body mass. It is a relatively common disorder, and is a pathological feature of diseases such as cancer , HIV infection, and renal failure. Recent studies have demonstrated that cachexia brought about by a variety of illnesses can be attenuated or reversed by blocking activation of the melanocortin 4 subtype receptor (MC4-R) within the central nervous system. Although the potential use of central MC4-R antagonists for the treatment of cachexia was supported by these studies, utility was limited by the need to deliver these agents intracerebroventricularly. In the current study, we present a series of experiments demonstrating that peripheral administration of a small molecule

MC4-R antagonist can effectively stimulate daytime (satiated) food intake as well as decrease basal metabolic rate in normal animals. Furthermore, this compound attenuated cachexia and preserved lean body mass in a murine cancer model. These data clearly demonstrate the potential of small molecule MC4-R antagonists in the treatment of cachexia and underscore the importance of melanocortin signaling in the development of this metabolic disorder.

L5 ANSWER 8 OF 9 MEDLINE on STN  
ACCESSION NUMBER: 2004302251 MEDLINE Full-text  
DOCUMENT NUMBER: PubMed ID: 15203150  
TITLE: Synthesis and biological evaluation of imidazole-based small molecule antagonists of the melanocortin 4 receptor (MC4-R).  
AUTHOR: Marsilje Thomas H; Roses Jonathan B; Calderwood Emily F; Stroud Stephen G; Forsyth Nancy E; Blackburn Christopher; Yow David L; Miao Wenyan; Drabick Stacey V; Bohane Marie D; Scott Daniels J; Li Ping; Wu Lijun; Patane Michael A; Claiborne Christopher F  
CORPORATE SOURCE: Department of Medicinal Chemistry, Millennium Pharmaceuticals, Inc., Cambridge, MA 02139, USA.. tmarsilje@gnf.org  
SOURCE: Bioorganic & medicinal chemistry letters, (2004 Jul 16) Vol. 14, No. 14, pp. 3721-5.  
Journal code: 9107377. ISSN: 0960-894X.  
PUB. COUNTRY: England: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200502  
ENTRY DATE: Entered STN: 24 Jun 2004  
Last Updated on STN: 8 Feb 2005  
Entered Medline: 7 Feb 2005  
AB A novel series of imidazole-based small molecule antagonists of the melanocortin 4 receptor (MC4-R) is reported. Members of this series have been identified, which exhibit sub-micromolar binding affinity for the MC4-R, functional potency <100nM, and good oral exposure in rat. Antagonists of the MC4-R are potentially useful in the therapeutic treatment of involuntary weight loss due to advanced age or disease (e.g. cancer or AIDS), an area of large, unmet medical need.

L5 ANSWER 9 OF 9 MEDLINE on STN  
ACCESSION NUMBER: 2003322627 MEDLINE Full-text  
DOCUMENT NUMBER: PubMed ID: 12851326  
TITLE: Melanocortin signaling and anorexia in chronic disease states.  
AUTHOR: Wisse Brent E; Schwartz Michael W; Cummings David E  
CORPORATE SOURCE: Division of Metabolism, Endocrinology and Nutrition, Harborview Medical Center, University of Washington, Seattle, Washington 98104, USA.. bewisse@u.washington.edu  
SOURCE: Annals of the New York Academy of Sciences, (2003 Jun) Vol. 994, pp. 275-81. Ref: 32  
Journal code: 7506858. ISSN: 0077-8923.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: General Review; (REVIEW)  
Priority Journals

ENTRY MONTH: 200308  
ENTRY DATE: Entered STN: 11 Jul 2003  
Last Updated on STN: 30 Aug 2003  
Entered Medline: 29 Aug 2003

AB Data from both rodent models and humans suggest that intact neuronal melanocortin signaling is essential to prevent obesity, as mutations that decrease the melanocortin signal within the brain induce hyperphagia and excess body fat accumulation. Melanocortins are also involved in the pathogenesis of disorders at the opposite end of the spectrum of energy homeostasis, the anorexia and weight loss associated with inflammatory and neoplastic disease processes. Studies using melanocortin antagonists (SHU9119 or agouti-related peptide) or genetic approaches (melanocortin-4 receptor null mice) suggest that intact melanocortin tone is required for anorexia and weight loss induced by injected lipopolysaccharide (an inflammatory gram-negative bacterial cell wall product) or by implantation of prostate or lung cancer cells. Although the precise mechanism whereby peripheral inflammatory/neoplastic factors activate the melanocortin system remains unknown, the proinflammatory cytokines (interleukin-1, interleukin-6, and tumor necrosis factor-alpha) that are produced in the hypothalamus of rodents during both inflammatory and neoplastic disease processes likely play a role. The data presented in this paper summarize findings that implicate neuronal melanocortin signaling in inflammatory anorexia.

=> FIL STNGUIDE  
COST IN U.S. DOLLARS

	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	5.32	5.53

FILE 'STNGUIDE' ENTERED AT 18:37:55 ON 04 MAR 2008  
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(FILE 'HOME' ENTERED AT 18:33:02 ON 04 MAR 2008)

FILE 'MEDLINE' ENTERED AT 18:33:11 ON 04 MAR 2008  
L1 516 S MELANOCORTIN-4  
L2 1 S L1 AND MELANOCORTIN-4 RECEPTOR MODULATOR  
L3 491 S MELANOCORTIN-4 RECEPTOR  
L4 266 S L3 AND (ANTAGONIST OR AGONIST)  
L5 9 S L4 AND CANCER

FILE : 'STNGUIDE' ENTERED AT 18:37:55 ON 04 MAR 2008

=> log y  
 COST IN U.S. DOLLARS  
 FULL ESTIMATED COST

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	ENTRY	SESSION
	0.24	5.77

STN INTERNATIONAL LOGOEE AT 18:40:13 ON 04 MAR 2008